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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,973	12/14/2005	Francois Perraut	034299-674	9588
46188	7590	09/21/2006	EXAMINER	
THELEN REID & PRIEST, LLP P. O. BOX 640640 SAN JOSE, CA 95164-0640			LAM, ANN Y	
			ART UNIT	PAPER NUMBER
			1641	

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/560,973	<b>Applicant(s)</b> PERRAUT ET AL.	
	<b>Examiner</b> Ann Y. Lam	<b>Art Unit</b> 1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 3/14/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

Claim 1 is objected to because of the following informalities: "characterized" in line 3 should be --characterized--. Also, "analyzing" in line 5 should be --analyzing--. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 recites in lines 3-4, "subtracting the sum of all of the pixels of the first zone (25) from the sum of all the pixels of the second zone". It is not clear what is being claimed because Applicants' specification appears to not be actually subtracting the sum of all the pixels of the different zones (as is recited in claim 6), but rather subtracting the *signals* from the sum of the pixels *detecting* the first and second zone of interest, and will be interpreted so for examination purposes. Clarification is requested.

Claim 7 recites "The method according to claim 1 followed by fluorescence of the sample. It is not clear what is being claimed because the limitation "followed by

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fluorescence of the sample” as recited in the claim appears to be a separate step from the method of claim 1, as opposed to being part of the method of claim 1. It is also not clear what the fluorescence of the sample has to do with the “method for assaying a biological or chemical sample” of claim 1 (see preamble) if the fluorescence of the sample is not intended to be part of the method of claim 1. However, if the limitation “followed by fluorescence of the sample” is intended to be part of the “method for assaying a biological or chemical sample, then it is not clear what step of claim 1 the fluorescence follows. For examination purposes, claim 7 is interpreted to mean that the fluorescence is part of the method for assaying a biological or chemical sample and can follow any step.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Ault-Riche et al., US 2004/0241748.

As to claim 1, Applicants claim a method for assaying a biological or chemical sample, comprising a step of illuminating the sample by means of a light beam coming from a source, characterized in that it also comprises producing an image including the image of the beam diffused by the sample, analyzing the image according to reference criteria, extracting information specific to the light/sample beam interaction, calculating the assay, and in that the analysis consists of the examination of the spatial structure of the image and the distribution of the light energy in this image.

Ault-Riche et al. teach this method by teaching a method of providing capture agents which bind to binding partners for diagnostic tests (paragraph [0015] and [0016]) and utilizing an imaging device such as a CCD camera or optical scanner device that generates digital image data or color images (paragraph [0438]). Ault-Riche et al. teach that assessment of an effect includes a chemical change, or a change in kinetics of the reaction, among other things (paragraph [0030]). Ault-Riche et al. also teach that the invention includes providing self-assembled arrays with capture agents, the array or collection of arrays having loci that are subjected to reagent materials or other processing for observation of chemical or biological reactions (paragraph [0437]). Ault-Riche et al. further teach that the image data is useful for depicting an optical appearance or characteristic of each locus on the array or collection of arrays, such as indicating luminosity of the loci, or reflectivity of the loci under particular types of illuminating light and that the image data is useful for detecting a change in the optical appearance or characteristic of each locus after biological processing, such as chemical or biological reaction ([0438]). The step of detecting a change in the optical appearance

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or characteristic of each locus after biological processing is considered to be Applicants' claimed step and analyzing the image according to reference criteria, the analysis consisting of examination of the spatial structure of the image and the distribution of the light energy in this image. The step of detecting the image is considered to be Applicants' claimed step of extracting information specific to the light/sample beam interaction. The step of assessment of an effect includes a chemical change, or a change in kinetics of the reaction, is deemed to be Applicants' claimed step of calculating the assay. The step of utilizing an imaging device such as a CCD camera or optical scanner device that generates digital image data or color images is deemed to be Applicants' claimed step of producing an image including the image of the beam diffused by the sample.

As to claim 2, the method comprise a previous step of placing the sample in a chamber of which all of the sides are transparent (paragraph [0160] and [0162], disclosing that that supports upon which the array is located can be made of glass—which is a transparent material; and see also paragraph [0288], disclosing that a lid can be made transparent for detection purposes).

As to claim 3, the diffusion is particle scattering (paragraph [0438]; and paragraph [0288] for example). (The image generated is considered to be an image including the particle scattering of the particles in the sample.)

As to claim 4, the assay is calculated with respect to a calibration between the light energy measurement and the sample amount (paragraph [00542]).

As to claim 5, the assay is calculated with respect to the analysis of the kinetics of the biological or chemical reaction (paragraph [0030]).

As to claim 6, Applicants claim that a first zone of interest around the excited volume zone, and a second zone of interest next to this first zone are defined, and that the specific signal is measured by subtracting the sum of all the pixels of the first zone from the sum of all the pixels of the second zone. This is disclosed by Ault-Riche et al. because Ault-Riche et al. teach that an image correction processing that involves compensating for locus neighbor effects in the locus image data. Ault-Riche et al. teach that the neighbor effects compensation involves examining luminosity data for all the array loci adjacent to each locus of interest. The technique removes luminosity effects from sources other than the locus of interest and there can contribute to more accurate luminosity data for the array loci over the surface of the array or collection of array (see paragraph [0446] and [0449]. Any one of the locus adjacent the locus of interest is deemed to be Applicants' first zone of interest and the locus of interest is deemed to be Applicants' second zone of interest next to the first zone. The removal of the luminosity for all the array loci adjacent to the locus of interest from the luminosity of the locus of interest is deemed to be Applicants' step of subtracting the sum of all the pixels of the first zone from the sum of all the pixels of the second zone. It is noted that Ault-Riche et al. teach use of a CCD camera or optical scanner device that generates digital image or color images (paragraph [0438]) and that the image data form the array(s) is processed on a pixel by pixel basis (paragraph [0448]). Removal of the luminosity for all the array loci, or just one loci, adjacent to the locus of interest from the luminosity of the locus of

interest thus results in the subtraction of the sum of the luminosity detected by the pixels detecting the first zone from the sum of the luminosity detected by the pixels detecting the second zone.

As to claim 7, the method includes fluorescence of the sample (paragraphs [0160] and [0542], disclosing use of fluorescent labels).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ann Y. Lam whose telephone number is 571-272-0822. The examiner can normally be reached on Mon.-Fri. 10-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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A handwritten signature in black ink, appearing to read 'Ann Lam', with a stylized, cursive script.

Ann Lam